

to have good wetting properties, and this material must accumulate in the bath when large numbers of sheep are dipped. In order to determine what effect suint has, observations were made at a routine dipping of 264 Welsh yearlings at the College Farm. Samples of the dip were collected at the beginning and end of the dipping; also, observations were made on the first and last three sheep through the dip, the wool samples being taken from the back. The accompanying table gives the results.

	Initial dip	Final dip
% soluble As_2O_3	0.118	0.125
% soluble matter	0.19	2.66
Surface tension: dynes/cm.	73.0	43.3
	First 3 sheep	Last 3 sheep
Duration of protection against experimental myiasis (weeks)	3	2
% soluble As_2O_3 in wool at base of fleece 6 days after dipping	0.44, 0.51, 0.53	0.12, 0.23, 0.25
% decrease in soluble As_2O_3 content of whole staple from 6th to 26th day after dipping	23	57

It will be seen that there is a remarkable difference between the sheep dipped at the beginning and at the end; this result is not due to the dip becoming weaker but to the extraneous material introduced during dipping. The change in the physical properties of the dipping fluid was mainly due to suint; this material contains a high proportion of fatty acids and markedly lowers the surface tension of

water. Shortly after dipping, the arsenic content of the fleece was considerably lower in the sheep dipped last as compared with those dipped first; also, the arsenic disappeared from the fleece more rapidly and poorer protection was afforded against experimental infestation with sheep maggots (by the method of MacLeod¹).

It has long been realized by farmers that the dipping fluid becomes less effective in protecting sheep against maggot flies after a large number of sheep have been through the bath. This has usually been ascribed to contamination of the dip with dung and urine, materials which attract the fly. The present results suggest that the presence of suint in the bath may be of more importance, since this changes the physical properties of the fluid and results in a smaller and less stable deposit of poison in the fleece. Further work is in progress to find methods of preventing the deleterious effects of suint in the dipping bath.

This dipping at the College Farm was carried out in the spring with sheep in almost full fleece, but the animals were small and in poor condition after a hard winter. Higher concentrations of suint probably occur at larger dippings, especially of lowland sheep in good condition.

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¹MacLeod, J., *Parasitology*, 29, 526 (1937).

Points from Foregoing Letters

IN spectrophotograms of the auroral spectrum taken on October 18, L. Vegard has observed great enhancement of two lines coinciding with the two well-known lines of the hydrogen spectrum. This indicates the occasional presence of considerable quantities of hydrogen in the auroral region, which are due possibly to 'hydrogen showers' from the sun.

A. B. Wyse discusses the interpretation of a faint band at about 4932 Å. in the spectra of Nova Herculis (1934) and of Nova Aquilæ (1918). Radiation from nebulae in this region is probably due to oxygen. On the other hand, that from novæ is believed to be due to nitrogen.

I. Iitaka and S. Yamaguchi submit electron diffraction photographs of specimens of magnesium at room temperature and at 400° C. These indicate that magnesium after polishing with glass paper is covered by a thin film of oxide even at room temperature. A film of oxide also appears to exist on aluminium, but no trace of a film was found on beryllium.

M. Abercrombie has shown that evocation of neural tissue by chemical substances, including carcinogens, is possible in the chick embryo. Coagulated presumptive epidermis is also an evocator. The process of evocation in the chick is fundamentally similar to that in the newt, though the degree of reactivity of

the former to individual chemicals is different from the newt's.

R. S. Hoffman, E. Tenenbaum and L. Doljanski find that the activating effect of Rous sarcoma extracts on the growth of fibroblast cultures *in vitro* is not greater than that of extracts of normal adult tissue. The significance of the facts that neoplastic tissue has neither an unusually high growth-capacity nor an unusual wealth of growth-promoting agent as compared to normal tissue, and their bearing on the behaviour of malignant cells in the organism, is discussed.

Anomalous male flowers of maize (Sutton's White Horse Tooth) are described and illustrated by B. C. Sharman, where the anterior stamen is replaced by or arising in association with a third 'lodicule', akin to the stamen-lodicules described by Arber for *Cephalostachyum*.

Suint, the water-soluble material in sheep's wool, has good wetting properties. Observations by R. P. Hobson suggest that the accumulation of suint in the bath during dipping has a pronounced effect on the physical properties of arsenic dips; this results in a lower content of arsenic in the fleece and poorer protection against infestation by sheep maggots. Work is in progress with the view of finding methods of preventing the deleterious effects of suint in the dipping bath.